

REMARKS:

Claims 1-29 are pending in the application. Claims 1, 12, 16, 19, 20, and 21 are amended; claim 24 is cancelled; and claims 30 and 31 are newly presented. Applicant requests reconsideration and allowance in view of the above amendments and the following remarks.

IDS

The Office Action indicates that the Meusinger reference identified in the IDS filed August 27, 2004 was not considered because the patent number was invalid. A supplemental IDS correctly identifying the reference was submitted on May 13, 2008.

Rejection Under 35 U.S.C. § 112

Claims 14, 16, and 17 are rejected under 35 U.S.C. § 112, second paragraph, for lack of antecedent basis. Such informalities have been corrected by this Amendment. Accordingly, Applicant requests that the rejection be withdrawn.

Rejections Under 35 U.S.C. § 102

Claims 1-9, 14, 16-18, and 28 are rejected under 35 U.S.C. § 102(b) as anticipated by Ogata, JP 2001-139304. Applicant requests reconsideration and withdrawal of the rejection.

Ogata discloses the use of lithium zirconate (LiZrO_3) as its ceramic. That material has a pore size on the order of $3\text{ }\mu\text{m}$ (10^{-6} m). See, for example, Montanaro et al., Lithium Metazirconate for Nuclear Application: Physical and Mechanical Properties, 30 J. of Materials Science (1995) 4335 (copy attached).

Independent claim 1 (from which the others depend), on the other hand, has been amended to specify that the ceramic membrane(s) exhibit(s) microporous structure. Such structures have pores that are orders of magnitude smaller, i.e. which are on the order of Angstroms (10^{-10} m) or nanometers (10^{-9} m). See, for example, the Wikipedia definition of

microporous material (copy attached).¹ See, also, the Description of Elsevier, *Microporous and Mesoporous Materials*, (copy attached).² Zeolites (recited in various dependent claims) are one example of such microporous materials. See, for example, the Wikipedia definition of Zeolite (copy attached).

Thus, Ogata does not anticipate the claimed invention, and Applicant requests that the rejection be withdrawn.

Claims 19-22, 24-27, and 29 are rejected under 35 U.S.C. § 102(b) as anticipated by Van Andel, WO 2001/89665. Applicant traverses the rejection.

Citing to page 2, lines 15-26 of Van Andel, the Examiner asserts that Van Andel discloses a membrane that is essentially composed of ceramic material. That is incorrect. Van Andel specifically states that the membrane according to his invention “preferably consists of a porous polymer.” Thus, Van Andel does not anticipate the rejected claims.

Moreover, as with respect to independent claim 1, independent claim 19 (from which the others depend) has been amended to specify that the ceramic exhibits microporous structure. Nowhere in Van Andel is there any disclosure of such structure. Accordingly, Applicant requests that the rejection be withdrawn.

Rejection Under 35 U.S.C. § 103

Claims 10-13 and 15 are rejected under 35 U.S.C. § 103(a) as obvious based on Ogata in view of Van Andel. Applicant traverses and/or requests withdrawal of the rejection for at least the reasons set forth above with respect to the references individually, as the combination does not rectify the identified deficiencies of the references.

¹ Applicant is not adopting the specific definition of microporous as meaning less than 2 nm for all cases; Applicant is simply demonstrating that the term refers to pores that are orders of magnitude smaller than those exhibited by the material disclosed in Ogata.

² Again, Applicant is not adopting the specific definition of microporous as meaning less than 2 nm for all cases; Applicant is simply demonstrating that the term refers to pores that are orders of magnitude smaller than those exhibited by the material disclosed in Ogata.

In view of the foregoing, Applicant submits that all claims are in condition for allowance, and timely Notice to that effect is respectfully requested.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, referencing Attorney Docket No.: 7589.197.PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner may directly contact the undersigned by phone to further the discussion.

Novak Druce + Quigg LLP
1000 Louisiana, Fifty-Third Floor
Houston, Texas 77002
(713) 571-3400
(713) 456-2836 (fax)
tracy.druce@novakdruce.com

Respectfully submitted,

/Kenneth M. Fagin/

Kenneth M. Fagin, Esq.
Reg. No. 37,615
ken.fagin@novakdruce.com
(202) 204-4662